

Assessment Recommendations for

**Eureka Math *A Story of Units*
Fifth Grade – Module 1
2015-2016**

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Materials based on Eureka Math Version 3.

Module Assessment Overview

Purpose of Assessments

Mid-Module Assessment: These tasks address approximately the **first half** of the module's learning objectives and provide important information for instruction and for grading.

End-of-Module Assessment: These tasks are based on all standards addressed in order to gauge students' full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that **4 now indicates advanced understanding of grade level standards expected at this time of year.**

4 – Advanced: Student demonstrates advanced understanding of grade level standards expected at this time of year.

3 – Proficient: Student demonstrates proficiency with grade level standards expected at this time of year.

2 – Basic: Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.

1 – Below Basic: Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

Rubrics have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel's grade scale.

General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Fifth Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Module 1 Grading Guidance:

- *Standards 5.NBT.3 and 5.NBT.4 are only assessed in Fifth Grade Module 1.* The remaining standards in this module will be assessed again in later modules. (See checklist on page 3.)
- Item 3 on the Mid-Module Assessment and item 4 on the End-of-Module Assessment assess multiple domains. We recommend scoring item parts separately. Teams may want to quickly calibrate and/or adapt the rubric to better reflect proficiency with the standards assessed. The score sheet has been adjusted to reflect this recommendation. Also consider adjusting the weight of the scores for the domains. (Less weight for domains that are only assessed by one item, more weight for domains assessed with multiple items.)

Grade 5 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. The shaded boxes indicated standards assessed in Module 1. Some standards may be assessed again in later modules. *Note that standards included in major clusters are followed by an asterisk (*)*. Please refer to the Curriculum Overview of *A Story of Units* for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 5 MODULES					
		1	2	3	4	5	6
5.OA	1		X		X		
	2		X		X		X
	3						X
5.NBT	1*	X	X				
	2*	X	X				
	3a*	X					
	3b*	X					
	4*	X					
	5*		X				
	6*		X				
5.NF	7*	X	X		X		
	1*			X			
	2*			X			
	3*				X		
	4a*				X		
	4b*					X	
	5a*				X		
	5b*				X		
	6*				X		
	7a*				X		
	7b*				X		
	7c*				X		
5.MD	1	X	X		X		
	2				X		
	3a*					X	
	3b*					X	
	4*					X	
	5a*					X	
	5b*					X	
	5c*					X	
5.G	1						X
	2						X
	3					X	
	4					X	

Assessment Recommendations for Eureka Math *A Story of Units*
Fifth Grade Module 1: Mid-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student **CAN** do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)

Module 1: Mid-Module Assessment								
Question	Domain		Standards					
	Number and Operations in Base-Ten	Measurement and Data	5.NBT.1	5.NBT.2	5.NBT.3a	5.NBT.3b	5.NBT.4	5.MD.1
1	1 2 3 4				X	X		
2	1 2 3 4		X	X				
3a	1 2 3 4						X	
3b		1 2 3 4						X
4	1 2 3 4		X	X	X	X	X	

Domain Score	Number and Operations in Base-Ten		Measurement and Data	
Total Points			*Consider less emphasis on this score in the grade book since it reflects only one item.	
Level	4	14-16 pts.	4	4 points
	3	10-13 pts.	3	3 points
	2	6-9 pts.	2	2 points
	1	4-5 pts.	1	1 point

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned 4 points. This translates to a score of 1 in the grade book.

Fifth Grade Module 1: Mid-Module Assessment Task Score Sheet (continued)

Fifth Grade Module 1: Mid-Module Assessment Task (Topics A–C)	
Clusters and Standards Addressed	
Generalize place value understanding for multi-digit whole numbers	
5.NBT.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.
5.NBT.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
5.NBT.3	Read, write, and compare decimals to thousandths. <ul style="list-style-type: none"> a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})$. b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
5.NBT.4	Use place value understanding to round decimals to any place.
5.MD.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Fifth Grade Module 1: Mid-Module Assessment Task Rubric

Fifth Grade Module 1 Mid-Module Assessment: A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 5.NBT.3a 5.NBT.3b	The student correctly answers 0-1 of the six parts.	The student correctly answers 2-4 of the 6 parts.	The student correctly answers 5 of the six parts.	The student correctly answers 6 of the six parts. (See below.)
	a. (1) > b. (2) > c. (3) < d. (4) < e. (5) = f. (6) <			
2 5.NBT.1 5.NBT.2	The student correctly answers 0-1 of the four parts.	The student correctly answers 2 of the four parts.	The student correctly answers 3 of the four parts.	The student correctly answers 4 of the four parts. (See below.)
	(1) Models 8.88 on the place value chart a. (2) Uses words, numbers, and model to explain why each digit has a different value. b. (3) Finds product 88,800 and explains. c. (4) Finds quotient of 888 and explains.			
3 5.NBT.4 5.MD.1	The student correctly answers 1 of the four parts.	The student correctly answers 2 of the four parts.	The student correctly answers 3 of the four parts.	The student correctly answers 4 of the four parts. (See below.)
	a. (1, 2, 3) 2.251 cm, 2.349 cm, 2.3955 cm. b. (4) $2.3 \times 10^2 = 0.023$ m.			
4 5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.4	The student correctly answers 0-1 of the seven parts.	The student correctly answers 2-4 of the seven parts.	The student correctly answers 5-6 of the seven parts.	The student correctly answers 7 of the seven parts. (See below.)
	a. (1) 0.947 m, 0.97 m, 1.268 m, 1.5 m. (2) 947 thousandths meters. (3) $0.9 + 0.04 + 0.007 = 0.947$ m. b. (4) Rochester ≈ 1.0 m, Ithaca ≈ 0.9 m, Saratoga Springs ≈ 1.5 m, NYC ≈ 1.3 m. c. (5) 126.8 m. d. (6) $1.268 \times 10^2 = 126.8$. (7) Explains how the digits have shifted position and why.			

Assessment Recommendations for Eureka Math *A Story of Units*
Fifth Grade Module 1: Mid-Module Assessment Task Key

1. Compare using $>$, $<$, or $=$.

a. 0.4 $>$ 0.127

b. 2 thousandths + 4 hundredths $>$ 0.036

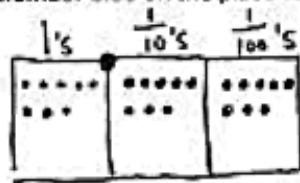
c. 2 tens 3 tenths 1 thousandth $<$ 20.31

d. 24 tenths $<$ 2.5

e. $4 \times 10^3 + 2 \times 100 + 3 \times \frac{1}{10}$ $=$ $4 \times 1000 + 2 \times 10^2 + 3 \times \frac{1}{10}$

f. $3 \times \frac{1}{10} + 4 \times \frac{1}{1000}$ $<$ 0.340

2. Model the number 8.88 on the place value chart.



a. Use words, numbers, and your model to explain why each of the digits has a different value. Be sure to use "ten times as large" and "one tenth as large" in your explanation.

8.88
 \uparrow
 This is 8×1
 \uparrow
 $8 \times \frac{1}{10}$
 \uparrow
 $8 \times \frac{1}{100}$

Even though there are 8 disks in each column, they are different units so they have different values.
 8 ones is 10 times as large as 8 tenths.
 8 hundredths is $\frac{1}{10}$ as large as 8 tenths.

Fifth Grade Module 1: Mid-Module Assessment Task Key (continued)

- b. Multiply 8.88×10^4 . Explain the shift of the digits and the change in the value of each digit.

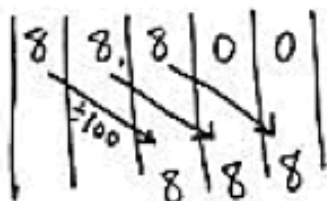
$$8.88 \times 10^4 = 88,800$$



When multiplying by 10^4 , each digit shifts 4 places to the left. 10^4 equals $10 \times 10 \times 10 \times 10$, or 10,000, so each digit becomes 10,000 times as large.

- c. Divide the product from (b) by 10^2 . Explain the shift of the digits and the change in the value of each digit.

$$88,800 \div 10^2 = 888$$



When dividing by 10^2 , each digit shifts 2 places to the right. 10^2 equals 10×10 , or 100, so each digit becomes $\frac{1}{100}$ as large.

3. Rainfall collected in a rain gauge was found to be 2.3 cm when rounded to the nearest tenth of a centimeter.

- a. Circle all the measurements below that could be the actual measurement of the rainfall.

2.251 cm

2.349 cm

2.352 cm

2.295 cm

- b. Convert the rounded measurement to meters. Write an equation to show your work.

$$2.3 \div 10^2 = 0.023$$

$$2.3 \text{ cm} = 0.023 \text{ m}$$

Fifth Grade Module 1: Mid-Module Assessment Task Key (continued)

4. Annual rainfall total for cities in New York are listed below.

Rochester	0.97 meters
Ithaca	0.947 meters
Saratoga Springs	1.5 meters
New York City	1.268 meters

- a. Put the rainfall measurements in order from least to greatest. Write the smallest total rainfall in word form and expanded form.

0.947 m , 0.97 m , 1.268 m , 1.5 m

nine hundred forty-seven thousandths

$$9 \times \frac{1}{10} + 4 \times \frac{1}{100} + 7 \times \frac{1}{1000}$$

- b. Round each of the rainfall totals to the nearest tenth.

$$0.97 \text{ m} \approx 1.0 \text{ m}$$

$$0.947 \text{ m} \approx 0.9 \text{ m}$$

$$1.5 \text{ m} \approx 1.5 \text{ m}$$

$$1.268 \text{ m} \approx 1.3 \text{ m}$$

- c. Imagine New York City's rainfall is the same every year. How much rain would fall in 100 years?

$$1.268 \text{ m} \times 100 = 126.8 \text{ m}$$

126.8 m would fall in 100 years.

- d. Write an equation using an exponent that would express the 100-year total rainfall. Explain how the digits have shifted position and why.

$$1.268 \text{ m} \times 10^2 = 126.8 \text{ m}$$

Each digit shifts 2 places to the left when multiplying by 10^2 . The value of each digit becomes 100 times as large.

$$1 \times 100 = 100$$

$$0.2 \times 100 = 20$$

$$0.06 \times 100 = 6$$

$$0.008 \times 100 = 0.8$$

Fifth Grade Module 1: End-of-Module Assessment Task Score Sheet

A Progression of Learning

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Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer.	Evidence of some reasoning with an incorrect answer.	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.	Evidence of solid reasoning with a correct answer.
(1 Point)	(2 Points)	(3 Points)	(4 Points)

Module 1: End-of Module Assessment								
Question	Domain		Standards					
	Number and Operations in Base-Ten	Measurement and Data	5.NBT.1	5.NBT.2	5.NBT.3a	5.NBT.3b	5.NBT.4	5.NBT.7
1	1 2 3 4		X	X				
2	1 2 3 4							X
3	1 2 3 4				X	X		
4a-c	1 2 3 4		X	X	X	X	X	X
4d		1 2 3 4						X

Domain Score	Number and Operations in Base-Ten		Measurement and Data	
Total Points			* Consider less emphasis on this score in the grade book since it reflects only one item.	
Level	4	14-16 points	4	4 points
	3	10-13 points	3	3 points
	2	6-9 points	2	2 points
	1	4-5 points	1	1 point

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned 4 points. This translates to a score of 1 in the grade book.

Fifth Grade Module 1: End-of-Module Assessment Task Score Sheet

Fifth Grade Module 1: End-of-Module Assessment Task (Topics A–F) Clusters and Standards Addressed

Generalize place value understanding for multi-digit whole numbers.

- 5.NBT.1** Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.
- 5.NBT.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
- 5.NBT.3** Read, write, and compare decimals to thousandths.
 - a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
 - b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- 5.NBT.4** Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

- 5.NBT.7** Add, subtract, multiply and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Convert like measurement units within a given measurement system.

- 5.MD.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Fifth Grade Module 1: End-of-Module Assessment Task Rubric

Fifth Grade Module 1 End-of-Module Assessment: A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 5.NBT.1 5.NBT.2	The student correctly answers 0 of the three parts.	The student correctly answers 1 of the three parts.	The student correctly answers 2 of the three parts.	The student correctly answers 3 of the three parts. (See below.)
	(1) Draws place value mat showing movement of digits. (2) Explains movement of units to the left for multiplication and (3) movement of units to the right for division.			
2 5.NBT.7	The student correctly answers 0-1 of the four parts.	The student correctly answers 2 of the four parts.	The student correctly answers 3 of the four parts.	The student correctly answers 4 of the four parts. (See below.)
	(1) Draws an area model. (2) Shows work to find product 13.8. (3) Expresses product in both word and (4) expanded form.			
3 5.NBT.3a 5.NBT.3b	The student correctly answers 0-1 of the six parts.	The student correctly answers 2-3 of the six parts.	The student correctly answers 4-5 of the six parts.	The student correctly answers 6 of the six parts. (See below.)
	a. (1) > b. (2) = c. (3) > d. (4) > e. (5) < f. (6) <			
4 5.NBT.1 5.NBT.2 5.NBT.3a 5.NBT.3b 5.NBT.4 5.NBT.7	The student correctly answers 0-2 of the eight parts.	The student correctly answers 3-5 of the eight parts.	The student correctly answers 6-7 of the eight parts.	The student correctly answers 8 of the eight parts.
	a. (1) Estimates 10.357 g to 10.4 g; 12.062g to 12.1 g; and 7.506 as 7.5; (2) finds sum 30 g; (3) shows work or model. b. (4) Finds sum 29.925 g (5) Finds difference 0.075 g. Allow a different difference if the incorrect answer is obtained because of an error in part a. c. (6) Finds quotient 5.985g and (7) Explains strategy used. d. (8) rounds 5.985g to 6g.			

Fifth Grade Module 1: End-of-Module Assessment Task Key

Name RuthieDate Oct. 2

1. The following equations involve different quantities and use different operations, yet produce the same result. Use a place value chart and words to explain why this is true.

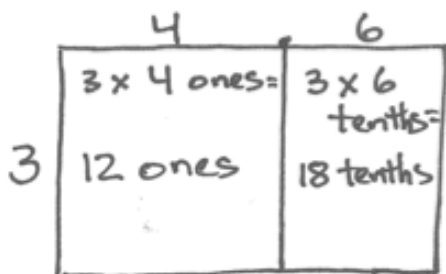
$$4.13 \times 10^3 = 4130$$

$$413,000 \div 10^2 = 4130$$



When I multiplied, the digits moved 3 places to the left, because they got larger. When I divided, the digits moved 2 places to the right, because they decreased.

2. Use an area model to explain the product of 4.6 and 3. Write the product in standard form, word form, and expanded form.



$$12 + 1.8 = 13.8$$

thirteen and eight tenths

$$1 \times 10 + 3 \times 1 + 8 \times \frac{1}{10}$$

Fifth Grade Module 1: End-of-Module Assessment Task Key (continued)3. Compare using $>$, $<$, or $=$.

a. 2 tenths + 11 hundredths

$\bigcirc >$ 0.13

b. 13 tenths + 8 tenths + 32 hundredths

$\bigcirc =$ 2.42

c. 342 hundredths + 7 tenths

$\bigcirc >$ 3 + 49 hundredths

d. $2 + 31 \times \frac{1}{10} + 14 \times \frac{1}{100}$

$\bigcirc >$ 2.324

e. $14 + 72 \times \frac{1}{10} + 4 \times \frac{1}{1000}$

$\bigcirc <$ 21.24

f. $0.3 \times 10^2 + 0.007 \times 10^3$

$\bigcirc <$ $0.3 \times 10 + 0.7 \times 10^2$

Fifth Grade Module 1: End-of-Module Assessment Task Key (continued)

4. Dr. Mann mixed 10.357 g of chemical A, 12.062 g of chemical B, and 7.506 g of chemical C to make 5 doses of medicine.

- a. About how much medicine did he make in grams? Estimate the amount of each chemical by rounding to the nearest tenth of a gram before finding the sum. Show all your thinking.

$$A \quad 10.357\text{g} \approx 10.4\text{ g}$$

$$B \quad 12.062\text{g} \approx 12.1\text{ g}$$

$$C \quad 7.506\text{g} \approx 7.5\text{ g}$$

$$\begin{array}{r} 10.4 \\ 12.1 \\ + 7.5 \\ \hline 30.0 \end{array}$$

Dr. Mann made about 30 grams of medicine.

- b. Find the actual amount of medicine mixed by Dr. Mann. What is the difference between your estimate and the actual amount?

$$\begin{array}{r} 10.357 \\ 12.062 \\ + 7.506 \\ \hline 29.925 \end{array}$$

$$\begin{array}{r} 30.000 \\ - 29.925 \\ \hline 0.075 \end{array}$$

The difference in the estimated and actual amounts is 0.075 grams.

- c. How many grams are in one dose of medicine? Explain your strategy for solving this problem.

$$\begin{array}{r} 5.985 \\ 5 \overline{) 29.925} \\ \underline{25} \\ 49 \\ \underline{45} \\ 42 \\ \underline{40} \\ 25 \\ \underline{25} \\ 0 \end{array}$$

I used the algorithm to find my answer.

There are 5.985 grams of medicine in one dose.

- d. Round the weight of one dose to the nearest gram.

$$5.985\text{g} \approx 6\text{ g}$$